

SCIENCE AND PROGRESS.

WHERE CONSUMPTION AND MALARIA MOST PREVAIL.

Something About Celluloid - Wonderful Glass Mountain in Yellowstone Park. House Drains - Desiccating Garbage. Health Maps.

A late number of Science contains maps of the United States, showing the locality in which ordinary American diseases are most prevalent.

The maps are from sketches given in an address by Dr. John S. Billings. Deaths in this country are most common from consumption, pneumonia and malarial fevers. It is a curious fact, too, that forty years ago the sickness now called malaria was unknown. There was the old-fashioned fever and ague, or "shakes," which Charles Dickens describes in "Martin Chuzzlewit." But that was different from what we now know as malaria. Moreover, malaria is fatally prevalent in localities where the ague was unknown.

The world is not always the same. People are changing all the time, climates are changing and diseases are changing.



MAP 1. Consumption is the most fatal disease in America. It will be seen by Map 1 that it is most destructive in the northeastern portion of the Union. The state of Maine is especially subject to it. The middle states are also pointed very dark upon the map; so is a strip along the Pacific coast.

In these maps the rate of deaths per 1,000 is indicated by dark and light shading. Where it is lightest, the annual number of deaths per 1,000 is less than 75. The next darker shade indicates a rate of 75 per 1,000; darker yet, up to 125, the fourth shading, up to 150, the fifth, up to 175, the last and darkest, over 175.



MAP 2.

There is one blessed spot in eastern and southern New Mexico, which is infested with neither consumption, malaria nor pneumonia. Would you live long? Fly thither. That is to say, if you are willing to dwell in the midst of eternal desolation, rocks, sand and mountains, where nothing grows but sage shrubs, cactus and greaseros. And probably even there, if there were more people, the percentage of diseases would be larger.

Deaths from pneumonia are much more numerous among colored than among white people.

A Glass Mountain.

One of the forthcoming reports of the geological survey will contain a paper by Professor Joseph P. Hiddings upon an obsidian cliff in Yellowstone park. This cliff is an elevation half a mile long by from 150 to 200 feet high, the material of which, Professor Hiddings says, "is as good a glass as any artificially manufactured." Its colors and structure make it not only highly interesting to the visitor, but furnish to the scientific investigator phenomena of importance. The cliff presents part of a section of a surface flow of obsidian, which poured down an ancient slope from the plateau lying east. It is impossible to determine what the original thickness of this flow was. The dense glass which now forms its lower portion is from 75 to 100 feet thick, while the porous and pumiceous upper portion has suffered from ages of erosion and glacial action.

A remarkable feature of the cliff is the development of prismatic columns, which form the southern extremity. These are of shining black obsidian, rising from the talus slope, and are from fifty to sixty feet in height, with diameters varying from two to four feet.

The color of the material of this cliff is for the most part jet black, but much of it is mottled and streaked with bright brownish red and various shades of brown, from dark to light yellowish, purplish and olive green. The brilliant luster of the rock and strong contrasts of colors with the black are very striking. In places the glass in the process of cooling has been broken into small angular pieces, which have been again cemented by the later flow, producing many colored and beautiful breccia. In some places the material shows a fine satin luster, while in others a deep golden green is noticeable, which, under the lens, resolves itself into thin bands of red and yellow light. Through the black and red glass are scattered dull bluish gray patches and bands, and round gray and pink masses, the effect of which is to still further vary the appearance and beauty of the rock, and make it the most conspicuous and characteristic variety of volcanic lava known. - New York Sun.

Celluloid.

The extent to which celluloid is now utilized as a substitute in the arts and industries is something remarkable. The material is produced in rods, tubing, sheet and rolls, and among its various manufactured forms are brushes, combs, mirrors and toilet articles in imitation of ivory, coral and amber; collars and cuffs, jewelry, cork screws, carvings, soap cases, powder boxes, paper knives, thimbles, restaurant checks, shoe hooks and pins, napkin rings, mouthpieces for pipes, parols, umbrellas and cane handles, etc., in imitation of coral, ivory, malachite, tortoise shell, amber, lapis lazuli, agate, carnelian, etc.; piano keys and organ stop knobs, in imitation of ivory; white and colored letters for signs, monograms and trade marks; stereotypic plates and type and wood cuts, moldings and veneers for picture frames, show cases, cor-

ices, pendants, etc., in white and colors mountings for spectacles, eyeglasses, opera glasses, etc.; substituting and imitating hard rubber, horn, tortoise shell, etc.; handles for table cutlery, plates for artificial teeth, trimmings, whip handles and pencil cases, statuettes, rollers for skates, spoons and forks, etc. This list might be indefinitely extended, in the line of things alike useful and ornamental, the claim being also made that the substitute is better adapted for these purposes than is the original material.

The manufacture of celluloid has been controlled ever since its invention by one company, which is as powerful as any of the great corporations in the land. Moreover, the substance is so inflammable that it is dangerous to bring it near a fire or flame. Strangely enough, however, workmen who make it, though knowing its nature, will not be careful in handling it. One of these days there will be a pretty explosion in a factory or store or private house where there is a quantity of it. Then the celluloid industry will get a setback.

Desiccating Garbage.

A company in New York City is endeavoring to perfect a process for the desiccation of garbage, with a view to utilizing the vast quantity of city refuse now dumped in the sea from garbage scows. The matter to be treated is run through a chute into one end of a revolving cylindrical oven about sixty feet long by ten or twelve feet in diameter. The oven, which is strongly constructed of boiler iron, is inclosed in a brick furnace, one end being higher than the other. A fire in the furnace keeps an equable heat in the oven, and the latter is slowly revolved by a steam engine. The garbage or refuse enters at the elevated end, is thoroughly stirred and dried as it slowly travels from one end to the other of the revolving oven, and emerges from its lower end desiccated and inoffensive. - Science.

House Drains.

The pipes leading from the kitchen should be cleaned thoroughly twice every week. The best way to do this is to pour boiling lye down the pipes in sufficient quantity to eat away and carry off all the accumulation of grease which clogs the interior of the pipe. Outside drains should be washed out once a week at least by pouring down them a bucketful of copperas water, or enough carbolic acid to remove all sour or impure odor.

A few drops of carbolic acid should be poured down the pipes leading from stationary washstands. A slight odor of carbolic acid through the sleeping room is unpleasant to but few persons, and the slight amount inhaled will be found very beneficial to anyone afflicted with any chronic throat trouble.

Chlorine gas is one of the best of disinfectants. It will purify the air wherever it reaches, and is a safeguard against typhus fever and cholera.

Facts of Interest.

Astronomical photography has succeeded in reproducing stars down to the thirteenth magnitude.

The use of glass flooring, giving light to the rooms beneath, is rapidly increasing in Paris, especially just above cellars.

In New York City there are 200,000 women and girls employed in ninety-two trades. They earn from \$4 to \$8 per week.

The diamond is found imbedded in hard, rock-like, bluish earth. This is called "blue ground," and is believed to be of volcanic origin.

The New York state board of health has found two samples of cream of tartar adulterated with oxalic acid. Hanging is too good for villains who will thus poison the people's food.

Large floating fields of pumice, thrown up by the great volcanic eruption at Krakatoa, Java, have been seen in the Indian ocean, nearly 700 miles from where they were seen a year ago.

WHAT SHALL WE WEAR?

Little Girls' Head Gear.

Since one can remember there have not been so many pretty head coverings for little girls as there are this fall. They are frequently home made, of pieces of the child's cloak or frock, but of most graceful, dainty shapes, and trimmed with silken tassels and knots and bows of ribbon.



GIRLS' CAPS.

The illustration shows two of the styles that are common. That on the left is made of cloth to match the cloak worn by the girl. It is a graceful hood, trimmed at the top in front with woolen pompons. Bows of silk or ribbon will answer the purpose as well. This hood is sometimes made of plush or corded silk. It is always prettier to match in color the cloak or dress.

Small girls wear the hair hanging loosely down the back this year. It is brushed first, then unbrushed, so as to wave it lightly. The Russian bang is popular. It trims the hair to a peak in the middle of the forehead and high upon each side. Girls above 10 or 12, and up to 17 or 18, wear the hair in a single braid down the back, or wound about the head like a coronet. Sometimes the braids are folded in a coil at the nape of the neck for large girls.

Fig. 2 on the right is called the Etruscan cap. It is of Jersey webbing, silk or wool, trimmed with astrachan fur, and decorated with an agraife and tassels. These caps are very neat and trim.

Another popular and graceful style is the broad, flat sailor cap, with simply a band around the head. This shape is frequently seen in bright red. Any color short of lemon or brilliant, dazzling purple hue will be worn, however. The shades are dark and rich.

There are also quaint, cunning hoods that tie under the chin and make the little girls look so pretty that one wonders the angels do not fly away with them. There is nothing the Creator ever made that is prettier than a little girl.

The caps and hoods are largely made of the rough-napped or boucle cloth, so fashionable for children's cloaks this winter.

What Men Should Do at a Dance.

In the first place, a man is invited to a ball in order that he may dance, and not to serve the purpose of either a door post or a fire screen. No man who has ever learned how to dance will ever regret it, both because it is a most agreeable recreation in itself, and because it makes him a more useful member of society. Few things impart so much polish to a man's manners as the art of dancing, and it behooves him the more to become an expert in it inasmuch as it is one of the very few exercises in which the gentler sex can join.

From the beginning to the end of a dance a man must never lose sight of the idea that he is taking care of his partner. He must never dance in such a fashion as to make his partner look ridiculous - whirling her round the room wildly, or making her in any way conspicuous. He must not talk to other people who

are dancing in the same set, for his whole attention must be concentrated on the lady who has done him the honor to dance with him. On no account must he leave her side until he has finally restored her to her chaperon, and then he should never omit to bow. If he is dancing a square dance his attention should never wander from his partner for a moment. He should know the figures so well himself as to be able to help her if she forgets them; he must always put her exactly in the right place when the exigencies of the figure require that she should leave him, and be ready to receive her when she returns. It is the worst of bad breeding for a man to pay so much attention to his next-door neighbor in the lancers as to be too late to turn his partner round when he returns to her. Whether in a round or in a square dance his object must be to see that his partner does not get jostled by other couples; he should learn to be a good stealer, for a man who plunges wildly about in a ballroom is a nuisance to his partner, and to every one else as well.

At the conclusion of the dance a man should invite his partner to take refreshments, and hold her fan or gloves for her while she does so. However charming he may find his present companion, he should never fail to turn up in time to claim the next lady he is engaged to. In fact, if a man will try to forget himself altogether, and concentrate his attention on his partners, he will not make mistakes in the etiquette of the ballroom.

Girls' Cloaks.

There is much variety in material in these, and considerable in shape. Nearly all the models are, however, built on the long, half-loose coat pattern, with seams down the back.

The advantage of the patterns shown in the illustration is that they can be worn as either frocks or cloaks. They are warm enough, with heavy underclothing, without any other wrap in all weather but the coldest. Little girls, as well as their mammae, have "store" dresses already made now.



FIG. 1. FIG. 2.

Fig. 1 shows a handsome coat of dark, heavy material, cheviot or boucle. All such coats have handsome clasps, and large metal buttons to match them. They have plush collars and cuffs, and satin linings. The cloak in the picture has an outside half belt of plush, which slopes loosely to a point in front.

Fig. 2 shows one of the heavy coat frocks mentioned. It is of English cheviot, in dark or light mixed checks. The collar, cuffs and belt are of dark silk plush. A handsome metal clasp fastens the belt; silk cord ornaments the jacket front at the throat. Many of the coats have neat shoulder capes attached.

Something New in Riding Habits.

I saw a novel kind of habit up at the school the other day. It was the most sensible and comfortable of anything I have ever seen a woman wear in riding. First, knee breeches, buttoning close below the knee. Then high-topped boots, also buttoned closely to the leg over the breeches and above the knee. Over all this was worn a coat like a coachman's close-fitting ulster, buttoned far enough down to hide the figure only, and left free to fall to the left foot, and fastened by loops and buttons down the inside of the left coat tail, to the inside of the left leg. In this way she was completely covered, and yet as perfectly free as a man would be in case of accident. I scarcely think this style of habit will become popular, not for some time, at any rate. It exposes the figure too much before the wearer is in the saddle, and most of our ladies will wait until they are generally worn before they will have the courage to adopt them. In the country, where one can manage to escape observation, I cannot think of a more convenient style of habit. - Boston Herald.

For Little Boys.

Everything has been done to make the little folks' clothing pretty and comfortable all around this season. Here, for instance, are patterns of an overcoat and a small boy's kilt suit.

On the left is a handsome overcoat of the style worn by boys from 4 to 14. It is of rough boucle or heavy frieze, or any cloaking stuff preferred, with linings and facings of satin in dark, sober or bright colors. The long, flat hood is lined with bright colors for small children and darker for large ones.



OVERCOAT. KILT.

On the right is a picture of a kilt suit for a boy of, say, 2 to 6 years old. It is of warm, heavy cloth, with satin lining, finished neatly with braid like a man's clothing. The large metal buttons match the goods properly. You will observe that the suit is cut sacque pattern in front, like the boy's big brother's overcoat, and is plain, being kilt-plaited only at the back and sides.

FASHIONLETS.

Tinsel-shot Madras lace curtains are pretty novelties in window draperies.

Diagonal draping across the front of the bodice is seen on new Paris dresses.

All sorts of novel bows are used to form the high bonnet trimmings of this season.

Links of gold and platinum alternate in many fashionable chains, and these two metals are otherwise used together.

Condor yellow, mermaid's pink, and glycine or liquorice purple, are the three latest colors on the palette of fashion.

Jet sets consisting of epaulettes, cuffs, collars and pendant plaques for the corsage are among the high novelties in garnitures.

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